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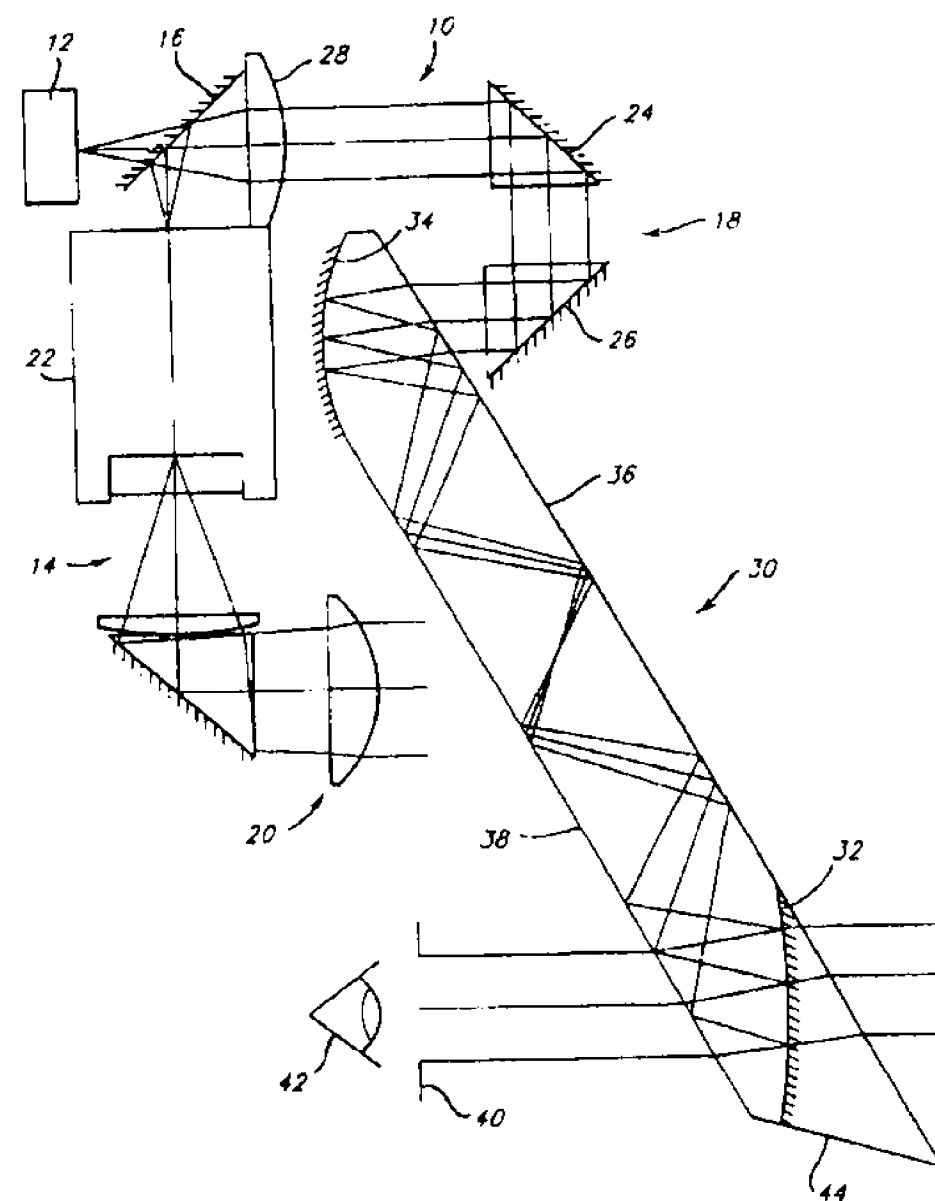
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11.03.92 Bulletin 92/11(71) Applicant: **HUGHES OPTICAL PRODUCTS, INC.**
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Alois-Steinecker-Strasse 22 Postfach 1553
W-8050 Freising(DE)(54) **Helmet mounted display system.**

(57) An apparatus for combining a display image with the field of view of a viewer. Light from either a night vision system (14) of a CRT (12) is directed into an eyepiece (12). The eyepiece (12) magnifies and focuses the image into a combiner (30). The combiner (30) consists of an elongated optical element with two parallel sides (36) and (38) and two concave reflective surfaces (32) and (34) at each end. Light entering the combiner (30) is reflected off the first reflective surface (32) and then is reflected back and forth between the sides of the combiner (36) and (38) and then onto the second reflective surface (32).

Light reflected off the second reflective surface (32) is combined with light entering from the field of view of the viewer through a prism element (44). The result is that the display image is superimposed in the field of view of the viewer. The system is light in weight, does not protrude significantly from the user's head, introduces minimal distortion and offers a wide field view.

**FIG. 1.****EP 0 380 035 A3**



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EUROPEAN SEARCH REPORT

Application Number

EP 90 10 1244

DOCUMENTS CONSIDERED TO BE RELEVANT					
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)		
E	EP-A-0 365 406 (THOMSON-CSF) * abstract; figure 1 *** column 3, line 36 - line 42 ** - - -	1,3,9,10	G 02 B 17/06 G 02 B 23/08 G 02 B 23/12 G 02 B 27/00		
Y	FR-A-2 496 905 (ETAT FRANCAIS) - - -	9			
A	FR-A-2 496 905 (* page 4, line 4 - line 16; figure 1 *) - - -	1,11			
Y	US-A-4 239 342 (AURIN) - - -	9			
A	US-A-4 239 342 (* abstract; figure *) * column 1, line 54 - line 58 ** - - -	1,5,7,10, 11			
A	EP-A-0 206 324 (HONEYWELL) * page 1, line 15 - page 2, line 12; figures 1,3 ***** page 3, line 1 - line 12 ** - - -	1-4,9,11			
A	US-A-3 923 370 (MOSTROM) * abstract *** column 5, line 25 - line 29 *** column 6, line 18 - line 24 ** - - -	1,3,7,9,11			
A	CH-A-361 930 (CLAVE) * page 1, line 1 - line 5 *** page 2, line 27 - line 33; figure 2 ** - - -	1,5,9,11	TECHNICAL FIELDS SEARCHED (Int. Cl.5)		
A	GB-A-2 077 942 (SULLIVAN) * abstract; figure 3 ** - - -	1,9,11	G 02 B		
D,A	US-A-4 563 061 (ELLIS) * column 2, line 48 - line 56; figure 1 ** - - - - -	1,2,9,11			
The present search report has been drawn up for all claims					
Place of search The Hague		Date of completion of search 10 December 91	Examiner SOULAIRE D.G.G.		
<table><tr><td>CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention</td><td>E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons ----- &: member of the same patent family, corresponding document</td></tr></table>				CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention	E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons ----- &: member of the same patent family, corresponding document
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